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10/718,635	11/24/2003	Guenther Reinhard Kram	71-831-1	1288

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EXAMINER	
SCHIFFMAN, JORI	

ART UNIT	PAPER NUMBER
3677	

DATE MAILED: 05/18/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)
	10/718,635	KRAM ET AL.
	Examiner	Art Unit
	Jori R. Schiffman	3677

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) 1-33 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) 1-33 is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on 24 November 2003 is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date 11242003.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Specification

1. The disclosure is objected to because of the following informalities: Claims 11, 22, and 33 are objected to because of the following informalities: Claims 11, 22, and 33 contain the terms "number six, number eight, number ten, number twelve, or number fourteen sized threaded fastener". These terms are not defined in the specification. Appropriate correction is required.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 1-33 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

4. Regarding claims 1, 12, and 23, the phrase "and the like" renders the claims indefinite because the claims include elements not actually disclosed (those encompassed by "and the like"), thereby rendering the scope of the claims unascertainable. See MPEP § 2173.05(d). The claims have been examined as best understood.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

6. Claims 1-4, 8-10, 23-26, and 30-32 are rejected under 35 U.S.C. 102(e) as being anticipated by Janusz (US 6332741).

Regarding claims 1-4 and 23-26, Janusz discloses a threaded fastener capable of being inserted within diverse types of substrates, comprising wood, metal, thermoplastics, composite materials, concrete, hard aggregate, and the like, comprising a shank portion 26, 28, 30 extending circumferentially around a longitudinal axis, a head portion 22 formed upon a first end of said shank portion, a tapered tip portion 32 formed upon a second opposite end of said shank portion, a substantially continuous single helical thread 40, 42 formed upon said shank portion, wherein individual thread portions of said substantially continuous single helical thread comprise crest portions, and wherein further, individual thread portions of said substantially continuous single helical thread comprise upper and lower flank surfaces with an included angle, defined between said upper and lower flank surfaces, being either 40 or 45 degrees (col. 3, l. 9-11), and a plurality of saw-blade type teeth, the spaces between valleys 48, formed upon peripheral edge portions of said crest portions of said individual thread portions of said substantially continuous single helical thread which are disposed only upon the shank portion so as to extend substantially continuously and contiguously around the entire circumferential extent of said threaded screw fastener, whereby a single one of said threaded fasteners

can be used for insertion within the diverse types of substrates comprising wood, metal, thermoplastics, composite materials, concrete, hard aggregate, and the like.

As to claims 8 and 30, Janusz discloses said plurality of substantially continuous saw-blade type teeth only being formed upon peripheral edge portions of said crest portions of leading ones of said individual thread portions of said substantially continuous single helical thread.

In regard to claims 9 and 31, Janusz discloses said leading ones of said individual thread portions of said substantially continuous single helical thread comprising approximately the leading one-third to one-half of the number of individual thread portions of said substantially continuous single helical thread formed upon said shank portion of said threaded fastener.

Referring to claims 10 and 32, Janusz discloses said plurality of substantially contiguous saw-blade type teeth having a predetermined pitch defined between adjacent ones of said plurality of substantially contiguous saw-blade type teeth, and each one of plurality of substantially contiguous saw-blade type teeth having a predetermined radial depth dimension.

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

8. Claims 1-6, 8, 9, 11, 23-28, 30, 32, and 33 are alternatively rejected under 35 U.S.C. 103(a) as being anticipated by Hsu (US 5056491) in view of Janusz (US 6332741).

Regarding claims 1-4 and 23-26, Hsu discloses a threaded fastener capable of being inserted within diverse types of substrates, comprising wood, metal, thermoplastics, composite materials, concrete, hard aggregate, and the like, comprising a shank portion 24, 21 extending circumferentially around a longitudinal axis, a head portion formed upon a first end of said shank portion, a tapered tip portion 21 formed upon a second opposite end of said shank portion, a substantially continuous single helical thread 25, 22 formed upon said shank portion, wherein individual thread portions of said substantially continuous single helical thread comprise crest portions, and wherein further, individual thread portions of said substantially continuous single helical thread comprise upper and lower flank surfaces and a plurality of saw-blade type teeth 23 formed upon peripheral edge portions of said crest portions of said individual thread portions of said substantially continuous single helical thread which are disposed only upon the shank portion so as to extend substantially continuously and contiguously around the entire circumferential extent of said threaded screw fastener, whereby a single one of said threaded fasteners can be used for insertion within the diverse types of substrates comprising wood, metal, thermoplastics, composite materials, concrete, hard aggregate, and the like. Hsu fails to disclose the included angle of the upper and lower flank surfaces of the thread. Janusz teaches a thread with an included angle, defined between said upper and lower flank surfaces, being either 40 or 45 degrees (col. 3, l. 9-11). It would have been obvious at the

time the invention was made to a person of ordinary skill in the art to have an included angle of each 40 and 45 degrees in the thread of Hsu as disclosed in Janusz

In regards to claims 5 and 27, Hsu discloses the teeth 23 having a substantially trapezoidal configuration.

Referring to claims 6 and 28, Hsu discloses valleys defined between successive ones of the plurality of trapezoidal-shaped teeth.

As to claims 8 and 30, Hsu discloses said plurality of substantially continuous saw-blade type teeth only being formed upon peripheral edge portions of said crest portions of leading ones of said individual thread portions of said substantially continuous single helical thread.

Referring to claims 10 and 32, Hsu discloses said plurality of substantially contiguous saw-blade type teeth 23 having a predetermined pitch defined between adjacent ones of said plurality of substantially contiguous saw-blade type teeth, and each one of plurality of substantially contiguous saw-blade type teeth having a predetermined radial depth dimension.

Regarding claims 11 and 33, the specific pitch and dimensions of the fastener would be recognized depending on the particular use of the invention.

9. Claims 7 and 29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Janusz (US 6332741) as applied to claims 1 and 23 above, and further view of Armstrong (US 4842467).

Regarding claims 7 and 29, Janusz fails to disclose the included angle of each valley. Armstrong teaches the included angle B of each valley being from about 90° to

about 120° (col. 4, l. 61-63) to facilitate cutting. It would have been obvious at the time the invention was made to a person of ordinary skill in the art to modify the angle of the valleys of the teeth in Janusz's fastener to be 100° as disclosed in Armstrong in order to facilitate cutting which will in turn reduce the torque needed to install the fastener.

10. Claims 12-15 and 19-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Janusz (US 6332741) in view of Lovisek (US 3083609).

Regarding claims 12-15, Janusz discloses a threaded fastener capable of being inserted within diverse types of substrates, comprising wood, metal, thermoplastics, composite materials, concrete, hard aggregate, and the like, comprising a shank portion 26, 28, 30 extending circumferentially around a longitudinal axis, a head portion 22 formed upon a first end of said shank portion, a tapered tip portion 32 formed upon a second opposite end of said shank portion, a substantially continuous single helical thread 40, 42 formed upon said shank portion, wherein individual thread portions of said substantially continuous single helical thread comprise crest portions, and wherein further, individual thread portions of said substantially continuous single helical thread comprise upper and lower flank surfaces with an included angle, defined between said upper and lower flank surfaces, being both 40 or 45 degrees (col. 3, l. 9-11), and a plurality of saw-blade type teeth, the spaces between valleys 48, formed upon peripheral edge portions of said crest portions of said individual thread portions of said substantially continuous single helical thread which are disposed only upon the shank portion so as to extend substantially continuously and contiguously around the entire circumferential extent of said threaded screw fastener, whereby a single one of said threaded fasteners

can be used for insertion within the diverse types of substrates comprising wood, metal, thermoplastics, composite materials, concrete, hard aggregate, and the like. Janusz fails to disclose the individual thread portions being substantially continuous except upon said tapered tip portion wherein an axially oriented slot, intercepting individual thread portions defined upon said tapered tip portion, renders said individual thread portions defined upon said tapered tip portion discontinuous. Figure 3 of Lovisek teaches an axially oriented slot 23 upon the tapered tip portion. It would have been obvious at the time the invention was made to a person of ordinary skill in the art to include an axially oriented slot in the tapered tip portion of Janusz as disclosed in Lovisek to ensure that excess material does not impede the installation of the fastener, which will facilitate installation (col. 2, l. 5-9).

As to claim 19, modified Janusz discloses said plurality of substantially continuous saw-blade type teeth only being formed upon peripheral edge portions of said crest portions of leading ones of said individual thread portions of said substantially continuous single helical thread.

In regards to claim 20, modified Janusz discloses said leading ones of said individual thread portions of said substantially continuous single helical thread comprising approximately the leading one-third to one-half of the number of individual thread portions of said substantially continuous single helical thread formed upon said shank portion of said threaded fastener.

Referring to claim 21, modified Janusz discloses said plurality of substantially contiguous saw-blade type teeth having a predetermined pitch defined between adjacent

ones of said plurality of substantially contiguous saw-blade type teeth, and each one of plurality of substantially contiguous saw-blade type teeth having a predetermined radial depth dimension.

Regarding claim 22, the specific pitch and dimensions of the fastener would be recognized depending on the particular use of the invention.

11. Claims 12-17, 19, 21, and 22 are alternatively rejected under 35 U.S.C. 103(a) as being unpatentable over Hsu (US 5056491) in view of Janusz (US 6332741) and Lovisek (US 3083609).

Regarding claims 12-15, Hsu discloses a threaded fastener capable of being inserted within diverse types of substrates, comprising wood, metal, thermoplastics, composite materials, concrete, hard aggregate, and the like, comprising a shank portion 24, 21 extending circumferentially around a longitudinal axis, a head portion formed upon a first end of said shank portion, a tapered tip portion 21 formed upon a second opposite end of said shank portion, a substantially continuous single helical thread 25, 22 formed upon said shank portion, wherein individual thread portions of said substantially continuous single helical thread comprise crest portions, and wherein further, individual thread portions of said substantially continuous single helical thread comprise upper and lower flank surfaces and a plurality of saw-blade type teeth 23 formed upon peripheral edge portions of said crest portions of said individual thread portions of said substantially continuous single helical thread which are disposed only upon the shank portion so as to extend substantially continuously and contiguously around the entire circumferential extent of said threaded screw fastener, whereby a single one of said threaded fasteners

can be used for insertion within the diverse types of substrates comprising wood, metal, thermoplastics, composite materials, concrete, hard aggregate, and the like. Hsu fails to disclose the included angle of the upper and lower flank surfaces of the thread. Janusz teaches a thread with an included angle, defined between said upper and lower flank surfaces, being either 40 or 45 degrees (col. 3, l. 9-11). It would have been obvious at the time the invention was made to a person of ordinary skill in the art to have an included angle of each 40 and 45 degrees in the thread of Hsu as disclosed in Janusz to facilitate installation into a different type of substrate (col. 3, l. 21-24). Modified Hsu fails to disclose the individual thread portions being substantially continuous except upon said tapered tip portion wherein an axially oriented slot, intercepting individual thread portions defined upon said tapered tip portion, renders said individual thread portions defined upon said tapered tip portion discontinuous. Figure 3 of Lovisek teaches an axially oriented slot 23 upon the tapered tip portion. It would have been obvious at the time the invention was made to a person of ordinary skill in the art to include an axially oriented slot in the tapered tip portion of Janusz as disclosed in Lovisek to ensure that excess material does not impede the installation of the fastener, which will facilitate installation (col. 2, l. 5-9).

In regards to claim 16, modified Hsu discloses the teeth 23 having a substantially trapezoidal configuration.

Referring to claim 17, modified Hsu discloses valleys defined between successive ones of the plurality of trapezoidal-shaped teeth.

As to claim 19, modified Hsu discloses said plurality of substantially continuous saw-blade type teeth only being formed upon peripheral edge portions of said crest portions of leading ones of said individual thread portions of said substantially continuous single helical thread.

Referring to claim 21, modified Hsu discloses said plurality of substantially contiguous saw-blade type teeth 23 having a predetermined pitch defined between adjacent ones of said plurality of substantially contiguous saw-blade type teeth, and each one of plurality of substantially contiguous saw-blade type teeth having a predetermined radial depth dimension.

Regarding claim 22, the specific pitch and dimensions of the fastener would be recognized depending on the particular use of the invention.

12. Claim 18 is rejected under 35 U.S.C. 103(a) as being unpatentable over Janusz (US 6332741) in view Lovisek (US 3083609) as applied to claim 12 above, and further in view of Armstrong (US 4842467).

Regarding claim 18, modified Janusz fails to disclose the included angle of each valley. Armstrong teaches the included angle B of each valley being from about 90° to about 120° (col. 4, l. 61-63) to facilitate cutting. It would have been obvious at the time the invention was made to a person of ordinary skill in the art to modify the angle of the valleys of the teeth in modified Janusz's fastener to be 100° as disclosed in Armstrong in order to facilitate cutting which will in turn reduce the torque needed to install the fastener.

Conclusion

13. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

The following patents are cited further to show the state of the art with respect to fasteners with cutting teeth in general: U.S. Pat. No. 2200227 to Olsen.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jori R. Schiffman whose telephone number is 703-305-4805. The examiner can normally be reached on M-Th, and every other Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Judy Swann can be reached on 703-306-4115. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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Examiner
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JS

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Primary Examiner